

REMARKS

Claims 1-15 are pending in the present application. Claims 1, 7 and 11 are independent claims.

Drawing Objections

The Examiner objects to Figure 3 based on MPEP §608.02(g) as not being designated as prior art. Applicant respectfully traverses this objection.

Figure 3 is not prior art. Figure 4, which is an embodiment of the present invention, may contain all aspects of Figure 3 in units 50, 51, 52 and 53. Applicant respectfully requests the Examiner remove this objection.

The Examiner objects to drawings under 37 C.F.R. 1.83(a) as not showing every feature of the invention specified in the claims. Applicant understands that the Examiner refers to claim 4 but is citing claim 5 in this objection. The Examiner states Figure 4 does not show the multiplexer connected directly to the gate of the second transistor. However, claim 5 states, "wherein the controller comprises the multiplexer that selectively transmits one of the column cycle signal and the recontrol signal to the gate of the second transistor in response to a clock enabled signal" (Emphasis added). Therefore, the multiplexer does not have to be directly connected to the second transistor but rather the controller may be (Emphasis added). Applicant respectfully submits that the controller shown in Figure 4 is correctly connected to the transistor as specified in claim 5.

Claim Objections

Claims 11 and 12 are objected to because of minor informalities. These minor informalities stand corrected with the current amendment. Applicant respectfully requests that the Examiner remove these claim objections.

Claim Rejections 35 U.S.C. §112

Claims 7 and 10 stand rejected under 35 U.S.C. §112 for having insufficient antecedent basis in reference to “the data input/output lines”. This antecedent basis problem has been eliminated. Applicant respectfully requests that the Examiner remove this rejection.

35 U.S.C. §103(a) AAPA, Costello and Farmwald

Claims 1, 3, 11 and 14 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Applicant admitted prior art (AAPA), Costello and Farmwald. With respect to the Examiner, Applicant respectfully traverses this art ground of rejection.

Initially, Applicant agrees with the Examiner that AAPA does not teach that there is a controller which comprises a multiplexer, that controller being operable in a first mode in which the second transistor is responsive to a read control signal and a column cycle signal for selecting the first block and wherein the data from the first block is transmitted to the data input/output line via the first and second transistors (See pages 4-5 of the Outstanding Office Action).

Costello discloses a memory organization apparatus and method. Specifically, Costello applies this memory organization apparatus and method in a computer display system including a display having a plurality of display pixels for defining images.

Farmwald discloses an integrated circuit IO using a high performance bus interface.

The Examiner alleges that it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the memory device of AAPA with the response to a read signal and a column signal of Costello and the multiplexer controlled output driver of Farmwald to arrive at the claimed invention.

1. Rejection fails test for establishing prima facie case of obviousness.

Applicants direct the Examiner's attention to two recent cases decided by the Court of Appeals for the Federal Circuit (CAFC), In re Dembiczak, 175 F.3d 994, 999, 50 USPQ2d 1614, 1617 (Fed.Cir. 1999) and In re Kotzab, 217 F.3d 1365, 1371, 55 USPQ2d 1313, 1317 (Fed.Cir. 2000). Both of these cases set forth very rigorous requirements for establishing a prima facie case of obviousness under 35 U.S.C. §103(a). To establish obviousness based on a combination of elements disclosed in the prior art, there must be some motivation, suggestion, or teaching of the desirability of making the specific

combination that was made by the applicant. The motivation suggestion or teaching may come explicitly from one of the following:

- (a) the statements in the prior art (patents themselves)
- (b) the knowledge of one of ordinary skill art, or in some cases,
- (c) the nature of the problem to be solved.

See Dembiczak 50 USPQ at 1614 (Fed.Cir. 1999). In Kotzab, the CAFC held that even though various elements of the claimed invention were present (in two separate embodiments of the same prior art reference), there was no motivation to combine the elements from the separate embodiments, based on the teachings in the prior art.

In order to establish a prima facie case of obviousness under 35 U.S.C. §103(a), the Examiner must provide particular findings as to why the two pieces of prior art are combinable. See Dembiczak 50 USPQ2d at 1617. Broad conclusory statements standing alone are not "evidence".

In order to provide motivation for combining AAPA with Costello to reject independent claim 1 on page 4 of the Office Action, the Examiner asserts:

It would have been obvious... to combine the memory device of AAPA with the response to a read signal and a column signal of Costello... in order to allow two eight bit bytes to be transferred onto the bus in one operation.

In order to provide motivation for combining AAPA with Costello to reject independent claim 11 on page 6 of the Office Action, the Examiner asserts:

It would have been obvious... to combine the memory device of AAPA with the response to a read signal and a column signal of Costello... in

order to allow two eight bit bytes to be transferred onto the bus in one operation.

Applicants have read the entirety of Costello and Farmwald several times and do not see how reading these references one of ordinary skill in the art would think to combine AAPA, Costello and Farmwald to arrive at the claims 1, 11, 13 and 14. Accordingly, Applicants respectfully submit that claims 1, 11, 13 and 14 are allowable for at least the reason that the Examiner has failed to establish a proper prima facie case of obviousness under 35 U.S.C. 103(a), in view of Dembiczak and Kotzab.

2. Examiner using Impermissible Hindsight.

The Examiner is using impermissible hindsight reconstruction to reject the claims. The Examiner has used the present application as a blueprint, selected a prior art method of wafer structure as the main structural device, and then searched other prior art for the missing elements without identifying or discussing ***any specific evidence of motivation to combine***, other than providing conclusory statements regarding the knowledge in the art, motivation and obviousness. The Federal Circuit has noted that the PTO and the courts "cannot use hindsight reconstruction to ***pick and choose among isolated disclosures in the prior art to deprecate the claimed invention***," In re Fine, 837 F.2d 1071, 1075, 5 USPQ2d 1780, 1783 (Fed. Cir. 1988), and that the best defense against hindsight-based obviousness analysis is the rigorous

application of the requirement for a showing of a teaching or motivation to combine the prior art references. Combining prior art references without evidence of such a suggestion, teaching, or motivation simply takes the inventor's disclosure as a blueprint for piecing together the prior art to defeat patentability--the essence of hindsight. Dembiczak, 50 USPQ2d at 1617. Applicants respectfully submit that claims 1, 3, 11 and 14 are allowable for at least this additional reason.

3. Examiner has not provided requisite motivation to combine AAPA, Costello, and Farmwald.

The Examiner has not provided the requisite evidence to support his allegation that there is motivation to combine AAPA, Costello and Farmwald, so as to render obvious that which Applicants have described. The essential factual evidence on the issue of obviousness is set forth in Graham v. John Deere Co., 383 U.S. 1, 17-18, 148 USPQ 459, 467 (1966) and extensive ensuing precedent. The patent examination process centers on prior art and the analysis thereof. When patentability turns on the question of obviousness, the search for and analysis of the prior art includes evidence relevant to the finding of whether there is a teaching, motivation, or suggestion to select and combine the references relied on as evidence of obviousness. See, e.g., McGinley v. Franklin Sports, Inc., 262 F.3d 1339, 1351-52, 60 USPQ2d 1001,

1008 (Fed. Cir. 2001) ("the central question is whether there is reason to combine [the] references," a question of fact drawing on the Graham factors).

The Examiner has not provided the requisite showing of a suggestion, teaching, or motivation to combine the prior art references to reject claims 1, 3, 11 and 14 in the present application. "The factual inquiry whether to combine references must be thorough and searching." Id. It must be based on objective evidence of record. This precedent has been reinforced in myriad decisions, and cannot be dispensed with. See, e.g., Brown & Williamson Tobacco Corp. v. Philip Morris Inc., 229 F.3d 1120, 1124-25, 56 USPQ2d 1456, 1459 (Fed. Cir. 2000) ("a showing of a suggestion, teaching, or motivation to combine the prior art references is an 'essential component of an obviousness holding'" (quoting C.R. Bard, Inc., v. M3 Systems, Inc., 157 F.3d 1340, 1352, 48 USPQ2d 1225, 1232 (Fed. Cir. 1998)); In re Dembiczak, 50 USPQ2d at 1617 ("Our case law makes clear that the best defense against the subtle but powerful attraction of a hindsight-based obviousness analysis is rigorous application of the requirement for a showing of the teaching or motivation to combine prior art references."); In re Dance, 160 F.3d 1339, 1343, 48 USPQ2d 1635, 1637 (Fed. Cir. 1998) (there must be some motivation, suggestion, or teaching of the desirability of making the specific combination that was made by the applicant); In re Fine, 837 F.2d 1071, 1075, 5 USPQ2d 1596, 1600 (Fed. Cir. 1988) ("teachings of references can be combined only if there is some suggestion or incentive to do so.") (emphasis in original) (quoting ACS Hosp.

Sys., Inc. v. Montefiore Hosp., 732 F.2d 1572, 1577, 221 USPQ 929, 933 (Fed. Cir. 1984)).

The Examiner must explain the reasons one of ordinary skill in the art would have been motivated to select the references and to combine them to render the claimed invention obvious."); In re Fritch, 972 F.2d 1260, 1265, 23 USPQ2d 1780, 1783 (Fed. Cir. 1992) (the examiner can satisfy the burden of showing obviousness of the combination "only by showing some objective teaching in the prior art or that knowledge generally available to one of ordinary skill in the art would lead that individual to combine the relevant teachings of the references").

Accordingly, the Examiner has not adequately supported the selection and combination of AAPA, Costello and Farmwald to render obvious that which Applicants have described. The Examiner's conclusory statement "in order to allow two eight bit bytes to be transferred onto the bus in one operation" does not adequately address the issue of motivation to combine. Further, the Examiner has given no reason that one skilled in the art would include the multiplexer of Farmwald with AAPA and Costello, instead relying on the conclusory statement "multiplexer controlled output drivers are well known in the art". This factual question of motivation is material to patentability, and could not be resolved on subjective belief and unknown authority. It is improper, in determining whether a person of ordinary skill would have been led to this combination of references, simply to "[use] that which the inventor

taught against its teacher." W.L. Gore v. Garlock, Inc., 721 F.2d 1540, 1553, 220 USPQ 303, 312-13 (Fed. Cir. 1983). The Examiner must explain the reasoning behind his findings of motivation. Simply stating that combining AAPA and Costello "in order to allow two eight bit bytes to be transferred onto the bus in one operation " is an insufficient explanation for the alleged combination.

Further, the Examiner is reminded that deferential judicial review under the Administrative Procedure Act does not relieve the agency (in this case the USPTO) of its obligation to develop an evidentiary basis for its findings. To the contrary, the Administrative Procedure Act reinforces this obligation. See, e.g., Motor Vehicle Manufacturers Ass'n v. State Farm Mutual Automobile Ins. Co., 463 U.S. 29, 43 (1983) ("the agency must examine the relevant data and articulate a satisfactory explanation for its action including a 'rational connection between the facts found and the choice made.'") (quoting Burlington Truck Lines v. United States, 371 U.S. 156, 168 (1962)). In this respect, since the examiner has not provided the requisite suggestion in the references to make his alleged combination, the Examiner rejects the precedent in In re Sung Lee, 23 USPQ2d 1780 (Fed. Cir. 2002).

In its decision on Lee's patent application, the Board rejected the need for "any specific hint or suggestion in a particular reference" to support the combination of the Nortrup and Thunderchopper references. Omission of a relevant factor required by precedent is both legal error and arbitrary agency

action. See Motor Vehicle Manufacturers, 463 U.S. at 43 ("an agency rule would be arbitrary and capricious if the agency . . . entirely failed to consider an important aspect of the problem"); Mullins v. Department of Energy, 50 F.3d 990, 992 (Fed. Cir. 1995) ("It is well established that agencies have a duty to provide reviewing courts with a sufficient explanation for their decisions so that those decisions may be judged against the relevant statutory standards, and that failure to provide such an explanation is grounds for striking down the action."). As discussed in National Labor Relations Bd. v. Ashkenazy Property Mgt. Corp., 817 F.2d 74, 75 (9th Cir. 1987), an agency is "not free to refuse to follow circuit precedent." Applicants submit that the Examiner has failed to provide a specific hint or suggestion in any of AAPA, Costello and Farmwald to support the alleged combination. In light of the weight of the above precedent, and in addition to the reasons in 1. and 2. above, Applicants respectfully submit that claims 1, 3, 11 and 14 are allowable.

Further, all other claims are rejected for at least the combination of AAPA, Costello and Farmwald. Applicant submits that claims 2, 4-10, 12-13, and 15 are likewise allowable over AAPA, Costello and Farmwald at least for the reasons given above with respect to the arguments above with respect to claims 1, 3, 11 and 14.

4. Technical Arguments over AAPA, Costello, and Farmwald.

Nevertheless, even assuming *arguendo* that the AAPA is combinable with Costello, which Applicants submit it is not, the combination of references does not teach or suggest all of the claimed features recited in claims 1, 3, 11 and 14. Applicants submit that the Examiner has failed to establish a prima facie case of obviousness in combining the AAPA with Costello, essentially using Applicants' specification as a blueprint to piece together elements.

The Applicant agrees with the Examiner that AAPA does not teach a controller which comprises a multiplexer, that controller being operable in a first mode in which the second transistor is responsive to a read control signal and a column cycle signal for selecting the first block and wherein the data from the first block is transmitted to the data input/output line via the first and second transistors (See pages 4-5 of the Outstanding Office Action).

Costello discloses a memory organization apparatus and method. Specifically, Costello applies this memory organization apparatus and method in a computer display system including a display having a plurality of display pixels for defining images. It is clear from Figure 6B that the read and column signals 125 and 126, respectively, are sent to memory blocks without going through a controller as described in claim 1 of the present invention (Emphasis added). Costello may teach a memory device that transfers data from a block when it responds to a read signal and a column signal but Costello certainly does not disclose "a controller including a multiplexer coupled to control the

second transistor, the controller being operable in a first mode in which the second transistor is responsive to a read signal and a column cycle signal for selecting the first block” as recited in claim 1 (Emphasis added).

Farmwald discloses an integrated circuit IO using a high performance bus interface. The Examiner states that Farmwald teaches output drivers being controlled by a multiplexer with two or more inputs connected to other internal chip circuitry. Referring to Figure 10, it is clear the multiplexer is controlled by a clock whose output then goes directly to an MOS pull-down transistor 76. It is clear from both Figure 4 of the present invention as well as claim 1 that the multiplexer is merely one part of a controller. Therefore, Farmwald does not disclose or suggest “a controller including a multiplexer coupled to control the second transistor, the controller being operable in a first mode in which the second transistor is responsive to a read control signal and a column cycle signal for selecting the first block, wherein the data from the first block is transmitted to the data input/output line via the first and second transistors” as recited in claim 1.

In view of the above, it is clear that AAPA, Costello and Farmwald do not disclose or suggest “a controller including a multiplexer coupled to control the second transistor, the controller being operable in a first mode in which the second transistor is responsive to a read control signal and a column cycle signal for selecting the first block” as recited in claim 1. Applicant respectfully requests that the Examiner remove this art grounds of rejection.

As such, claim 3 dependent upon independent claim 1 is likewise allowable over the cited references at least for the reasons given above in respect to independent claim 1. Applicants respectfully requests that the Examiner remove this art grounds of rejection.

In view of the above argument, it is clear that AAPA, Costello and Farmwald do not disclose or suggest, either alone or in any combination, “a controller including a multiplexer connected to control the second transistor, the controller being operable in a first mode in which the second transistor is responsive to a read control signal and a column cycle signal for selecting the block corresponding to the output driver and operable in a second mode in which the second transistor is responsive to the read control signal wherein the data from the corresponding block is transmitted to the data input/output line via the first and second transistors” as recited in independent claim 11.

As such, claim 14 dependent upon independent claim 11 is likewise allowable over the set of references at least for the reasons given above with respect to independent claim 11. Applicant respectfully requests that the Examiner remove this art grounds of rejection.

35 U.S.C. §103(a) AAPA, Costello, Farmwald and Karabatsos.

Claims 2, 12 and 13 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Applicant admitted prior art Costello and Farmwald as

applied to claims 1 and 11 above and further in view of Karabatsos. Applicant respectfully traverses this art grounds of rejection.

Applicant submits that, similar to above arguments, there is no motivation to combine AAPA, Costello and Farmwald. Applicant further submits, similar to above arguments, that there is no motivation to further combine Karabatsos with AAPA, Costello and Farmwald. However, even if one were to combine AAPA, Costello, Farmwald, and Karabatsos, the combination of AAPA, Costello, Farmwald and Karabatsos is still insufficient in rendering claims 2, 12 and 13 as obvious.

Karabatsos discloses an apparatus and method for terminating a computer memory bus. It is clear from a cursory review of Karabatsos that it is insufficient in overcoming the deficiencies of Applicant admitted prior art Costello and Farmwald as applied to claims 1 and 11 as discussed above. As such, claims 2, 12 and 13, dependent upon independent claims 1 and 11, respectively, are allowable over the cited references at least for the reasons given above with respect to independent claims 1 and 11. Applicant respectfully requests that the Examiner remove this art grounds of rejection.

35 U.S.C. §103(a) AAPA, Costello, Farmwald and Garlepp.

Claims 4 and 5 stand rejected under 35 U.S.C. §103(a) as being unpatentable over AAPA Costello and Farmwald as applied to claim 1 above

and further in view of Garlepp. Applicant respectfully traverses the art grounds of rejection.

Applicant submits that, similar to above arguments, there is no motivation to combine AAPA, Costello and Farmwald. Applicant further submits, similar to above arguments, that there is no motivation to further combine Garlepp with AAPA, Costello and Farmwald. However, even if one were to combine AAPA, Costello, Farmwald, and Garlepp, the combination of AAPA, Costello, Farmwald and Garlepp is still insufficient in rendering claims 4 and 5 as obvious.

It is clear from a cursory examination of Garlepp that Garlepp is insufficient in overcoming the deficiencies discussed above with respect to AAPA, Costello and Farmwald as to limitations argued over claim 1 above. As such, claims 4 and 5, dependent upon independent claim 1, are allowable over the cited references at least for the reasons discussed above with independent claim 1. Applicant respectfully requests that the Examiner removes this art grounds of rejection.

35 U.S.C. §103(a) AAPA, Costello, Farmwald and Garlepp.

Claims 7, 8 and 9 stand rejected under 35 U.S.C. §103(a) as being unpatentable over AAPA Costello, Farmwald and Garlepp. Applicant respectfully traverses this art grounds of rejection.

Applicant submits that, similar to above arguments, there is no motivation to combine AAPA, Costello, and Garlepp. However, even if one were to combine AAPA, Costello, Farmwald, and Garlepp, the combination of AAPA, Costello, Farmwald, Garlepp, Donnelly and Massie is still insufficient in rendering claims 7, 8, and 9 as obvious.

Applicant submits that independent claim 7 is allowable at least for reasons given above with respect to independent claims 1 and 11. As such, claims 8 and 9, dependent upon independent claim 7, are likewise allowable at least for the reasons given above with respect to independent claim 7.

**35 U.S.C. §103(a) AAPA, Costello, Farmwald, Garlepp, Donnelly and
Massie.**

Claim 6 stands rejected under 35 U.S.C. §103(a) as being unpatentable over AAPA, Costello, Farmwald and Garlepp as applied to claim 4 above and further in view of Donnelly and Massie. Applicant respectfully traverses this art grounds of rejection.

Applicant submits that, similar to above arguments, there is no motivation to combine AAPA, Costello, Farmwald, and Garlepp. Applicant further submits, similar to above arguments, that there is no motivation to further combine Donnelly and Massie with AAPA, Costello, Farmwald, and Garlepp. However, even if one were to combine AAPA, Costello, Farmwald, Garlepp, Donnelly and Massie, the combination of AAPA, Costello, Farmwald,

Garlepp, Donnelly and Massie is still insufficient in rendering claims 4 and 5 as obvious.

It is clear from a cursory examination of Massie and Donnelly that Massie and Donnelly are insufficient for overcoming the deficiencies AAPA, Costello, Farmwald and Garlepp as discussed above with respect to claim 4. Claim 6, dependent upon claim 4, is allowable over the cited references at least for reasons given above with respect to claim 4. Applicant respectfully requests the Examiner remove this art grounds of rejection.

35 U.S.C. §103(a) AAPA, Costello, Farmwald, Garlepp, Donnelly and Massie.

Claim 10 stands rejected under 35 U.S.C. §103(a) as being unpatentable over AAPA Costello, Farmwald and Garlepp as applied to claim 7 above and further in view of Donnelly and Massie. Applicant respectfully traverses this art grounds of rejection.

Applicant submits has already shown that there is no motivation to combine AAPA, Costello, Farmwald, Garlepp, Donnelly and Massie. However, even if one were to combine AAPA, Costello, Farmwald, Garlepp, Donnelly and Massie, the combination of AAPA, Costello, Farmwald, Garlepp, Donnelly and Massie is still insufficient in rendering claim 10 as obvious.

It is clear in view of the above arguments that Donnelly and Massie are insufficient in overcoming the deficiencies of AAPA, Costello, Farmwald and

Garlepp as applied to claim 7 above. As such, claim 10, dependent upon claim 7, is allowable over the cited references at least for the reasons given above with respect to claim 7. Applicant respectfully requests that the Examiner remove this art grounds of rejection.

**35 U.S.C. §103(a) AAPA, Costello, Farmwald, Garlepp, Donnelly and
Massie.**

Claim 15 stands rejected under 35 U.S.C. §103(a) as being unpatentable over AAPA, Costello and Farmwald as applied to independent claim 11 above and further in view of Garlepp, Donnelly and Massie. Applicant respectfully traverses this art grounds of rejection.

Applicant submits has already shown that there is no motivation to combine AAPA, Costello, Farmwald, Garlepp, Donnelly and Massie. However, even if one were to combine AAPA, Costello, Farmwald, Garlepp, Donnelly and Massie, the combination of AAPA, Costello, Farmwald, Garlepp, Donnelly and Massie is still insufficient in rendering claim 11 as obvious.

As discussed above, it is clear from a cursory examination that Garlepp, Donnelly and Massie are not sufficient to overcome the deficiencies of AAPA, Costello and Farmwald as applied to independent claim 11 above. As such, claim 15, dependent upon independent claim 11, is allowable over the cited references at least for the reasons given above with respect to independent

claim 11. Applicant respectfully requests that the Examiner remove this art grounds of rejection.

Reconsideration and allowance of pending claims is respectfully requested.

CONCLUSION

Prompt and favorable consideration of this Reply is respectfully requested. All of the stated grounds of rejection have been properly traversed, accommodated, and/or rendered moot. Applicants therefore respectfully request that the Examiner reconsider and withdraw all presently outstanding rejections. It is believed that a full and complete response has been made to the outstanding Office Action, and as such, the present application is in condition for allowance.

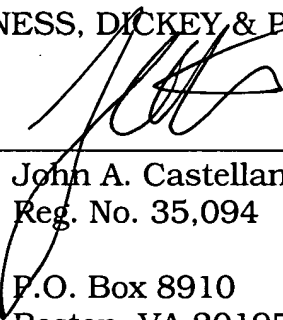
If the Examiner believes, for any reason, that personal communication will expedite the prosecution of this application, the Examiner is invited to telephone the undersigned at the number listed below.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. §§ 1.16 or 1.17; particularly, extension of time fees.

Very truly yours,

HARNESS, DICKEY & PIERCE, PLC

By



John A. Castellano
Reg. No. 35,094

P.O. Box 8910
Reston, VA 20195
(703) 668-8000

JAC/DAP:psy:ybm:dg